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### CHAPTER 5 ENGINEERING

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## EXISTING STRUCTURES

Table 5A-1 lists each structure and construction dates. Reclamation is expected in 2012.

Table 5A-1 Existing Structures  
Construction Dates

Existing Structure	Starting	Completion	Photo #
Sales/Receiving/Scale Office/Caretaker Dwelling	6/84	10/87	1
Fuel Tanks	10/83	6/84	2
Truck Loading Facility	9/82	4/83	3
Oil Slack Loading Facility	4/83	7/83	3
Storage & Stacking Facility	6/80	4/84	3
Conveyor Structures	3/80	6/80	3
Added Machine Shop	11/89	12/89	5
Shop	10/83	9/84	4
Coal Processing Facility	4/80	12/85	6
Lump Coal Facility	10/83	12/85	6
Non-Coal Storage Yard	3/80	9/84	7
Transformer Sub-Station	4/80	6/80	8
Cross Conveyor	7/89	9/89	9
WHR Tank Seam Fan	proposed		10
Coal Storage Bin	4/87	10/87	11
Powder Magazine	9/82	containerized	
Water Tanks & System	8/82	11/82	13
Mine Fan	9/82	11/82	14
Lump Coal Storage Pad	8/92	10/92	15
Equipment Wash Pad	8/92	10/92	16
Shower House	5/93	7/94	17
Antifreeze Storage Tank	12/93	1/94	18
WHR Blind Canyon Seam Fan	7/4/01	12/31/05	19
Wild Horse Ridge Conveyor Belt	7/4/01	12/31/05	
WHR Substation	7/4/01	12/31/05	
WHR Retaining Wall	7/4/01	12/31/05	
WHR Water & Fuel Tanks	7/4/01	12/31/05	
WHR Coal Storage Bin	7/4/01	12/31/05	
Power Lines	7/4/01	12/31/05	
Water Lines	7/4/01	12/31/05	
Portable Fan	7/4/01	12/31/05	21
Fuel Containment Enclosure	7/4/01	12/31/05	
Tank Seam Borehole Structure	7/4/01	12/31/05	20
Mine Portals	-	-	-

regulations. The enclosure will be checked weekly and drained of standing water if needed. Details of the design, maintenance, and spill disposal can be found in the C.W. Mining SPCC plan.

32. Tank Seam Borehole Structure.

This metal structure fully encloses the borehole and conveyor, which conveys coal from the Tank Seam Mine to the Blind Canyon Seam Mine. See photo #20.

33. Portals.

Bear Canyon Mine Complex has seven existing portals, and one proposed Portal.

The Blind Canyon Seam (Plate 3-4A) has two fans, one belt, and two intake portals. The first fan portal is in Bear Canyon near the upper storage pad and the second is in the Blind Canyon. The belt portal pad is shown on plate 3-6. One intake portal is located in the main portal area, and one in Blind Canyon (Appendix 3-I). Three accidental breakouts also exist in Blind Canyon, making a total of 5 openings in the Blind Canyon Seam on the Blind Canyon side. Four of these have been reclaimed in the manner described in (Appendix 3-I). The remaining two have been permanently sealed and will be backfilled during final reclamation. There are two portals in the Hiawatha Seam (Plate 3-4B): a belt and and intake portal. Permanent seals have been places over there portals backfilling will take place during final reclamation.

The bear canyon #2 mine, has three portals (Plate 3-4C), that have been reclaimed.

The Bear Canyon #3 and #4 Mines, in Wild Horse Ridge, will have a total of six portals (Plate 3-4A and 3-4C), all located in bear canyon.

A Summary of the Portals are as follows:

	Existing	Proposed
Blind Canyon Seam – Bear Canyon	4	
- Blind Canyon		
Hiawatha Seam -	2	
Tank Seam -	<u>3</u>	<u>        </u>
Total	9	

## **Appendix 5-P**

### **#4 MINE AUXILIARY PORTAL**

#### **#4 Mine Auxiliary Portal**

This portal is located in the left fork of the right fork of Bear Canyon. It will primarily be used for water monitoring access to seeps and springs located in the area that are normally inaccessible during winter months. If needed in the future this portal could also be used for intake ventilation to facilitate adequate ventilation across the working faces. Although this is not one of the MSHA required escapeways, in the extremely unlikely event that miners are unable to use either the primary or secondary escapeway, they could be evacuated through this portal. Although C. W. Mining does not anticipate this occurring if it did miners would be transported from the portal opening by helicopter. Access to this portal from the outside is similar to access to the Blind Canyon Portal described in Appendix 3-I and this portal is also strongly supported by C. W. Mining safety personnel as well as M.S.H.A.

#### **Construction**

The construction and reclamation of this portal will be similar to the Blind Canyon portal just the the uses are similar. The portal will extend to a coal outcrop that is covered by soil ranging from 0 to 3 inches in depth. The portals will be 6 to 8 feet tall, 9 to 18 feet wide and will be supported by roof bolts which extend into the sandstone rock above the coal. Where necessary additional support will be used and may include matting, screens, cribs, timber, and metal canopies. The portal will be closed with a stopping which will prevent unauthorized access of people as well as large animals which could theoretically utilize the portal for denning. A "No Trespassing" sign will also be posted outside the portal.

The topsoil will be removed from the area by hand and placed in a pile next to the anticipated opening. It will then be transported to a dry location underground once the portal is established. Surface disturbance will be minimal due to the nature of a continuous mining machine pulling the material into the mine. Any soil material that is pulled into the mine will be placed in a dry area inside the mine and will be stored for reclamation. Any coal or waste material which might crumble and fall down the slope will be retrieved by hand to whatever degree is reasonable.

The drainage from above the portal is minimal due to the size of the impacted area and the fact that the portal opening will be on a natural crest causing the water to flow away from the portal. In the event that any water does flow down in to the portal a berm will be constructed by hand above the portal opening to facility the flow of water around the portal opening.

## **Reclamation**

Reclamation will be accomplished from within the mine similar to the Blind Canyon Portal. The topsoil material being stored in mine will be placed outside next to the portal opening. Fill material will then be hauled through the mine and backed filled to a depth of 25 feet using underground equipment such as skid loaders and scoops. A permanent cement seal will then be built in the portal. The topsoil will be spread with underground equipment as much as possible before the hole is completely sealed. After the portal is sealed the remaining topsoil work will be done by hand. For revegetation seeds and erosion control matting will be hauled in by hand and placed over the disturbed area.